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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,738	01/25/2002	Gilbert Wolrich	10559-618001/P12857	2797
20985	7590	02/02/2004	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			DINH, NGOC V	
			ART UNIT	PAPER NUMBER
			2187	5

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,738

Applicant(s)

WOLRICH ET AL.

Examiner

NGOC V DINH

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 21 objected to because of the following informalities:

Claim 21, line 1, "method" should be replaced with -- system--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4, 6-9, 11-19, 21-23, 25-28 are rejected under 35 U.S.C.102 (e) as being anticipated by Adiletta et al. PN 6,606,704.

2. As per claim 1:

Adilleta teaches a method of transferring data between a processing agent and a memory resource comprising: designating the memory resource for pushing the data to the processing agent using a push bus [FBUS (via) Mbus; col. 6, lines 20-25] having a plurality of sources that arbitrate use of the push bus [col. 19, lines 42-55]; and, designating the memory resource for receiving the data from the processing agent using a pull bus [SRbus, fig. 1] having a plurality of destinations that arbitrate use of the pull bus [col. 19, lines 42-55]; [fig. 1; col. 5, lines 1-5; col. 6, line 60 to col. 7, line 20].

3. As per claims 2-4:

Adilleta teaches transferring data comprises: establishing a plurality of contexts on the programming agent and maintaining program counters [col. 3, lines 20-25; col. 7, lines 35-45] and context relative registers [col. 8, lines 10-20; col. 14, lines 55-60; read/write registers (78), (80), fig. 3-2]; the programming agent [16, fig. 1] executes a context and issues a read command

to a memory controller in a read phase; the memory controller processes the read command to be sent to the memory resource [col. 3, line 50 to col. 4, line 40; col. 13, lines 1-10].

4. As per claims 6-8:

Adilleta teaches that after the memory controller has completed the processing of the read command, the memory controller pushes the data to an input transfer register of the programming agent; after the data has been pushed, the programming agent reads the data in the input transfer register and the programming agent continues the execution of the context; the programming agent executes a context and loads the data into an output transfer register of the programming agent in a write phase col. 3, lines 28-50; col. 8, lines 1-25; col. 19, lines 40-55].

5. As per claim 9:

Adilleta teaches the claimed limitation as mentioned above.

Adilleta implicitly teaches that the programming agent issues a write command to a memory controller and the output transfer register is set to a read-only state [e.g., read lock; col. 18, line 65 to col. 19, line 25]. This is because during a SRAM access, the microengine has multi threads that could operate, therefore it is necessary for the SRAM controller to lock the data in the output transfer register and set the data in read only state to prevent it from being modified by other thread.

6. As per claims 11-12:

Adilleta further teaches that the memory controller pushes the data from the output transfer register and the memory controller sends a signal to the programming agent to unlock the output transfer register; if the context has been swapped out after the output transfer register has been unlocked, the context is swapped back in and the programming agent continues the execution of the context [col. 13, lines 1-30; col. 19, lines 1-25].

7. As per claim 13:

Claim 13 is rejected as the same reason as set forth in claim 1, and the further limitation “ a plurality of microengines executing multiple contexts that seek resources of the processing agent” is taught by Adilleta [22, fig. 1].

8. As per claims 14-15, 17:

Adilleta teaches that a read phase, a write phase for the transfer of data from the processing agent to the memory resource in which the transfer is unidirectional [col. 19, lines 55-65]. With respect

to claim 17, Adilleta further teaches the context relative registers are selected from a group comprising of general purpose registers, inter-programming agent registers, static random access memory (SRAM) input transfer registers, dynamic random access memory (DRAM) input transfer registers, SRAM output transfer registers, DRAM output transfer registers, and local memory registers [fig. 1-2].

9. As per claim 16:

Claim 16 is rejected as the same reason as set forth in claim 2.

10. As per claims 18-19:

Adilleta teaches the programming agent is configured to execute a context and issue a read command to a memory controller; the memory controller is configured to process the read command to be sent to the memory resource [col. 5, lines 19-45].

11. As per claims 21-22:

Adilleta teaches after the read command is processed, the memory controller is configured to push the data to an input transfer register of the programming agent and the programming agent is configured to read the data in the input transfer register and to continue the execution of the context; the programming agent is configured to execute a context and load the data into an output transfer register of the programming agent [col. 6, lines 40-55; col. col. 19, lines 42-55].

12. As per claims 23, 25:

Claims 23-25 are rejected as the same reason as set forth in claims 9-11.

13. As per claim 26:

Claim 26 is rejected as the same reason as set forth in claim 13.

14. As per claims 27-28:

Claims 27-28 are rejected as the same reason as set forth in claims 2-3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 10, 20, 24, 29 are rejected under 35 U.S.C 103(a) as being unpatentable over Adilletta et al, and in view of well known features of which Official Notice is hereby taken.

15. As per claims 5, 10, 20, 24, 29:

Adilletta teaches the claimed limitations as noted above.

Adilletta does not teach the context is swapped out if the read data or if the write command is required to continue the execution of the context.

However, the Examiner takes Official Notice to the fact that it would have been obvious for one having ordinary skill in the art at the time the invention was made to swap out the lower priority context in order to execute the higher priority context because the lower priority context is idle and inactive while waiting for requested data arrival. One would be motivated to process the higher priority context while the lower priority context is idle and inactive for the purpose of increasing system performance.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

a) Born et al PN 6,247,040 discloses Switching contexts in a storage device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc Dinh whose telephone number is (703) 305-3023. The examiner can normally be reached on Monday-Friday 8:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A. Sparks, can be reached on (703) 308-1756. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

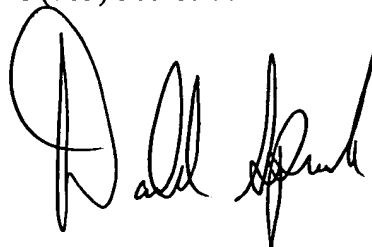


NGOC DINH

Patent Examiner

ART UNIT 2187

January 16, 2004



DONALD SPARKS

Supervisory Patent Examiner

Technology Center 2100